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“SNAKESTONES” AND STONE THUNDER- BOLTS AS SUBJECTS FOR SYSTEMATIC INVESTIGATION.

BY WALTER W. SKEAT, M.A.

(Read at Meeting, June 28th, 1911.)

IN a book published as lately as 1908 we read,—“ When we hear of the good or bad luck which is assumed to go with St. Cuthbert’s beads, (joints [or, as our geological friends insist we should call them, ossicles] of fossil encrinites), St. Peter’s fingers and thunderbolts (belemnites), Devil’s toe-nails (gryphaeas), and snakestones (ammonites), we might hastily conclude that the picturesque name has originated the belief. But fossils as charms or mascots form an ancient chapter in history and an unwritten chapter in pre-history.”¹

The chapter in question is certainly unwritten, in the sense that, although an immense number of isolated details have been recorded about “ fossil folklore ” and celt superstitions, there has been no proper survey of the facts, and the object of this paper is simply to focus attention on this class of facts and on the system required for investigating them. We find, when we come to look into the matter, a far larger number of fossil forms which have given birth to folklore elements of various kinds than we could have believed possible. For example’s sake, let us take the foregoing list. We may add to what the author has said that the small fossil plates from the Farne Islands,

¹ W. Johnson, *Folk-Memory*, p. 148.

which are known as St. Boniface's pence (*S.B.'s pfennige*) in Germany, were called St. Cuthbert's beads at least as far back as the date of Plot's *Natural History of Oxfordshire* (1677), and no doubt much earlier. Again, gryphites or "Devil's toe-nails," (called *clach crubain* in the tongue of old Gaul), are used in Scotland for pains in the joints, and, (perhaps in this case because they have a faint suggestiveness of the cloven hoof about them), are powdered, mixed with whey, and given as a drench to cattle. Another Liassic bivalve (*hippopodium*) is known as horses' or asses' feet to country people. The *ptyergotus anglicus*, a kind of gigantic eurypterid or king-crab, leaves moulds or impressions covered with delicately-waved lines which in Scotland have been taken, according to Hugh Miller,² for the markings on the wings of cherubs or "seraphim." The remains of giant saurians, such as *plesiosaurus* and *ichthyosaurus*, have long been identified in the Whitby neighbourhood as the bones of angels, and a giant saurian found near Lake Constance in 1725 was, as is well known, identified by Scheuchzer as *Homo Diluvii Testis*. The teeth or bones of fossil elephants, mammoths, or mastodons are identified as giants' teeth or giants' bones,—e.g. in Yorkshire and at the famous Field of Giants at Sta Fé de Bogota. Ammonites and *nautili* again are regarded as snakestones or "ophiomorphites," "horns of Ammon," and so forth. But over and above all this is the large class of thunderbolts and thunderstones, which include the globular concretions of iron pyrites or marcasite, (also believed to be, according to Robinson, celestial cannon balls),³ echini, belemnites, as well as other

² *The Old Red Sandstone* (1841), p. 147.

³ F. K. Robinson, *A Glossary of . . . Whithy*, Part ii. (1876), s.v. Thunnerbolts. Mr. E. Lovett, in the discussion which followed the paper, contended that stone axes etc. were regarded as thunderbolts because of their cutting edge and belemnites because of their sharp point. To this may be added that the nodules referred to above were, because of their round shape, also taken for cannon balls, and that there was in ancient times an additional reason for the latter idea, because early cannon balls were often enough made of stone.

objects, some of which are in no sense organic remains, (such as stone axeheads, and arrowheads, etc.), but which are so closely interwoven in folklore with the former kinds that they cannot well be left out of account in discussing the general questions involved. In the present paper I propose more particularly to consider such folklore of our forefathers under two main headings,—(1) with regard to “snakestones” as a typical fossil belief, and (2) with regard to “thunderbolts” of various kinds, from fossils to artificially shaped stones, *e.g.* celts. A simple and unambitious programme as this may sound, the subject is of such vast dimensions that I can only deal with typical examples of each. We shall see that, though selected for different reasons, both classes of objects are alike used ceremonially.

We will begin with snakestones, of which I may first mention the precious stone or “jewel” which is believed either to come forth, like the toadstone, out of the head, or else to be carried in the mouth of a serpent, a most ancient belief not only in England but in the East. Secondly, I may mention the well-known “snake’s egg” of the Druids of Gaul, described by Pliny,⁴ which Conybeare regards as probably being a Greensand fossil covered with *Ostrea sigillina*, and compares with the “gem” known as “adders’s glass,” thick green rings of which have been found in British barrows.⁵ I may add that other authorities also believe it to have been a fossil, probably some kind of echinoderm. There are also other kinds of stone which for various reasons have been called after snakes, generally because they suggest certain parts of a snake’s body. Chief amongst these is perhaps a kind of marble called *ophites* from its having mottled markings like those on the skin of a snake, and there is also the well-known *serpentine*, which has long waved markings thought to suggest the curves of a snake’s body.

⁴ Book xxix., cap. 12.

⁵ Quoted in *Folk-Memory*, p. 148, from *Roman Britain*, pp. 70-1.

In *The Past at our Doors*⁶ it is recorded that Henry III. had a great spit of gold, (such as was used in place of a fork at that date), in which an alleged "viper's tongue," (in the original Latin *lingua serpentina* or serpent's tongue), was set; this is a remarkably early example of a custom surviving to this day in the island of Malta, where certain small stones, coloured like the eyes, tongue, heart, or liver of serpents, found in the clay of the traditional cave of St. Paul, are still either set in rings and worn as a prophylactic against poison, or, more frequently, steeped in wine and drunk by the natives as an antidote for the same reason. In the case of Henry III., it seems but reasonable to suppose that the golden spit thus furnished was employed as a safeguard against the poisoning of his food,—a peril which, as history shows by many examples, was in those days never far removed from the uneasy wearers of our hard-kept Crown. It is only necessary to add that stones of the supposed serpent's tongue shape have been identified as fossil shark's teeth, and that their name of "snake's tongue" seems to go back to the Middle Ages.

The fact that such parts or supposed parts of a serpent were used as an antidote or safeguard against poison may be regarded as a striking instance of that sympathetic, or perhaps rather homœopathic, magic which is best known to us by the expression "a hair of the dog that bit you." On this principle the famous if revolting "viper-wine" or poison-antidote of ancient Venice, the ingredients of which included "vipers steeped alive in white wine, opium, spice, licorice, red roses, the juice of rough sloes, seeds of the treacle mustard," and many other abominations, the whole mixed with honey into a sort of drink, the origin of our modern "treacle," is perhaps the most extreme example conceivable.⁷

The remarkable belief, vouched for by Pliny,⁸ upon which

⁶ P. 48.

⁷ *Ibid.*, p. 47.

⁸ Book xxix., cap. 22.

rests the idea of using snakes or parts of snakes as a remedy for poison, was undoubtedly due to the fact that venomous serpents that had bitten people were believed to be commonly seized by, and even to die from, pangs of remorse! This method of curing a snakebitten person by virtue of the snake that bit him may finally be traced to the East, where we shall meet with a magnificent parallel in the customs of the Sinhalese, who, to protect themselves from snakebite, wear a picture of the king of the cobras tattooed on the right arm, recite a charm which identifies them with the serpent *king*, or carry a jewel which is supposed to be a serpent stone.⁹ This example brings out, I think, more clearly than anything else could have done, what I believe to be the true explanation of all such practices, viz., that the person who is wounded, or fears to be wounded, either by making or claiming what I might call "blood brotherhood" with the object or animal feared, or otherwise, seeks to get sympathy from it. In this case, through kinship with the snake he virtually becomes a snake, or still better, as in the Ceylon charm just quoted, the king of snakes, and thus obtains the protection or relief that he is seeking.

A different kind of snakestone from either of the foregoing is the ammonite or *cornu ammonis*, of which an early mention, for Scotland, occurs under the name of *Lapis Ceranius*, or *Cerana Amonis*, under Strath and Trotterness, in M. Martin's *A Description of the Western Islands of Scotland* (p. 134) in 1703:—"These Stones are by the Natives [of Skye] called Crampstones, because as they say they cure the Cramp in Cows, by washing the part affected with Water in which this Stone has been steep'd for some Hours." I have as yet come across no earlier reference to the snakestone belief in Scotland or Ireland, and it can hardly occur as an indigenous belief

⁹ *Folk-Lore*, vol. xxi., p. 161. Only I am inclined to doubt the explanation there given, as not explaining the facts sufficiently.

except where the ammonite-bearing strata are found. These strata in England are the Jurassic and Cretaceous rocks, lying roughly to the east of a line drawn from, say, Sidmouth to the mouth of the Tees; in Ireland the ammonites are confined to the north-east part of Ulster; in Scotland they are found in a few of the Western Isles and a patch on the north-east coast. There are some goniatites, allied to and generally resembling the ammonites, in the Carboniferous rocks, which have a wide range in central and north-west England, south Scotland, and a large part of Ireland; but these do not have the snaky look of ammonites, being plumper-looking and less evident in the strata, and hence less likely to have been noticed by our ancestors.

Passing to England, we read in the Whitby glossary¹⁰ as follows:—

“Snakes, or Snakestones, the fossil Ammonites found with other petrifications in the Whitby lias or alum rock. These snakestones, according to tradition, were living serpents abounding in the neighbourhood before the coming of St. Hilda [a Latinized form of the Saxon “Hild”], their destroyer, who, with the aid of Oswy, the Saxon king of Northumbria, founded our [*i.e.* the Whitby] monastery in the 7th century, the place in those days being called Streonshealh [more accurately “Streones-healh” *i.e.* “Streon’s Nook” or “Corner”]. Previously to that time, according to Bede, Streonshealh was ‘a desert spot.’”

Mr. Robinson also refers to *Marmion*, ii. 13, and compares the following lines by Surtees:—

“Then sole amid the serpent tribe
The holy Abbess stood,
With fervent faith and uplift hands
Grasping the holy rood.
The suppliant’s prayer and powerful charm
Th’ unnumber’d reptiles own;
Each falling from the cliff, becomes
A headless coil of stone.”

¹⁰ *Op. cit.*, part ii., s.v. Snakes, or Snakestones.

The passage in *Marmion* runs as follows :—

“ . . . Of thousand snakes, each one
Was changed into a coil of stone,
When holy Hilda pray'd ;
Themselves, within their holy bound,
Their stony folds had often found.”

But with regard to this reference, the important factor is not the oft-quoted, I had almost said “over-quoted,” text, as Mr. Robinson’s article suggests, but Sir Walter Scott’s own note (No. 26) upon it, to which he does not refer, but which is printed at the end of the volume, and runs as follows :—

“The relics of the snakes which infested the precincts of the convent and were, at the abbess’s prayer, not only beheaded, but petrified, are still found about the rocks and are termed by Protestant fossilists, *Ammonites*.”

The word “Protestant” is evidently meant to “conceal a jest” on the part of Sir Walter! This, however, is not the whole of the story, for, as Mr. G. C. Crick has pointed out in a recent paper,¹¹ as far back as 1818 James Sowerby figured in *The Mineral Conchology of Great Britain*¹² “an example of common Whitby ammonite¹³ that had been furnished with a head.” Mr. Sowerby’s remarks upon this point are as follows :—

“The Ammonites are called in common [parlance] Snake-stones, and superstition has accounted for their having been found constantly without heads, saying, the curse of St. Cuthbert [the local saint] was the cause of it; but as some of the dealers felt it a possible inconvenience, they were determined to be less barbarous, and compassionately supplied some with heads. I was so curious as to desire to see what sort of heads might be substituted, and Lady Wilson kindly procured me a specimen

¹¹ *Naturalist*, April 1st, 1910.

¹² Vol. ii., part 19, p. 10; Plate 107, (Fig. 2).

¹³ *Ammonites communis* = *dactyloceras commune*.

when at Whitby. I have figured that specimen for the information of others ; see fig. 2."

This fossil is now, Mr. Crick informs us, in the British Museum Collection¹⁴; it is not so large as the figure in the March number of the *Naturalist* for 1910. The practice of supplying heads to the Whitby ammonites was also mentioned in the *Geologist* for 1858,¹⁵ and again as late as 1885 by J. E. Taylor, who, in *Our Common British Fossils and Where to Find Them*,¹⁶ remarks that

"they are found in blue nodules, which, when broken open, reveal the coiled up ringed shell, wonderfully resembling a snake in such species as *Ammonites communis*, and still more wonderfully resembling one when they put a "head" on, with eyes in—as they sometimes do."

Mr. Crick also mentions another example in the British Museum that has been provided with a head, the nose being much more pointed than in Sowerby's example, and much more closely resembling the specimen figured in the *Naturalist*: this was added to the national collection in 1859. I am told as an interesting fact that small specimens of ammonites, set in gold, (though, I believe, without the head), are worn as pendants by the lady students of St. Hilda's College, a boarding-house at Cheltenham, which I understand is on the same foundation with a similar institution at Oxford. A curious anecdote which should not be omitted here is that the well-known Sussex geologist Gideon Mantell (1790-1858) obtained the inspiration which launched him on his geological career from an ammonite or snakestone, which as a boy he happened to see lying in the clear waters of a shallow stream that ran into the Sussex Ouse ; this fact is vouched for by Lower, the Sussex historian, and I may add that ammonites in this neighbourhood are still "snakestones" in popular Sussex parlance.

We have seen that the story of the (headless) snake-

¹⁴ No. 43,895a.

¹⁵ P. 111, in a note by S. J. Mackie.

¹⁶ Pp. 313-4.

stone was known in 1815, and was also used by Sir Walter Scott. We can, however, go further back still, for Alban Butler, in his *Life of St. Hilda* or *Hild, Abbess of Whitby*,¹⁷ remarks :—

“The common people formerly imagined that St. Hilda changed serpents into stones in this place, because on the face of the cliff were found abundance of stones which have the appearance of serpents or snakes rolled up, or in their coil, but without heads; which are natural stones called Ammonitæ; and are still plentiful there. . . . The Ammonitæ and many others are natural stones; but others seem clearly petrifications of fish, serpents, shrubs, etc. as Woodward shows, which Mead was not able to disprove.”

Now Woodward the geologist lived from 1665 to 1728, which shows us that the belief cannot have been altogether modern; and we are taken yet one step further back by a reference in the second part of Drayton's *Polyolbion* (1622, Song 28), in which he remarks with reference to Whitby:—

“And stones like Serpents there, yet may yee more behold
That in their natural Gyres are up together rold.”

The other great centre in England round which the snakestone legend centres is Keynsham, in Somersetshire. The general form of the legend is very similar to that which is current at Whitby. The Rev. J. Mitford is quoted by J. E. Harting, the editor of White's *The Natural History etc. of Selborne*,¹⁸ for a “fabulous legend which says that St. Keyna, from whom [as he erroneously supposes] the place [Keynsham] takes its name, resided here in a solitary wood, [which we miss in the Whitby versions], full of venomous serpents, and her prayers converted them into stones, which still retain their shape.” White himself, in his immortal work, (which appeared in 1789), calls them *cornua ammonis* or ammon's horns, and John Walcott¹⁹

¹⁷ *Lives of the Fathers etc.*, vol. i. (1838), p. 897.

¹⁸ P. 9 (1876).

¹⁹ Walcott, *Descriptions and Figures of Petrifications Found in the Quarries, Gravel-Pits, etc. Near Bath*, p. 31.

(1779) says, of Keynsham, "formerly the credulous inhabitants of this Village believed these Snake-stones to have been real serpents, changed into stone by one Keina, a devout British virgin." Alban Butler's version of this belief ²⁰ is as follows:—

"St. Keyna, Virgin. . . . St. Keyna, surnamed by the Welch, *The Virgin*, who lived a recluse in a wood in Somersetshire, . . . near the town of Cainsham, which seems so called from her, and stands on the Avon not far from Bristol. Spiral stones in the figure of serpents have been found in that country, which some of the people pretend to have been serpents turned into stones by her prayers. They seem either petrifications or sports of nature in uncommon crystallizations in a mineral soil."

I may remark here that this version of the legend is more important than the Whitby one, for Butler gives as his authority for the turning of serpents into stone Camden's *Britannia*, which takes us back at once to the Elizabethan period. The passage in Camden's *Britannia*, when translated, runs as follows:—

"Here (at Whitby) are found certain stones, in the form of serpents rolled up into a spiral, the marvels of Nature in her sportive mood . . . You would believe them to have once been serpents that have been covered by a stony cuticle. But superstition attributes them to the prayers of Hilda."²¹

This quotation shows that the belief was a matter of general report as far back as the year 1586, but a different passage from Camden bearing upon the same subject is quoted by Plot in *The Natural History of Oxfordshire*. This second passage adds the important information that Camden believed himself to have seen another kind of snakestone, the head of which projected at its circumference, while its tail was rolled up in the

²⁰ *Op. cit.*, vol. x., p. 607.

²¹ "*Lapides hic inveniuntur, serpentium in spiram reuolutorum effigie, naturæ ludentis miracula . . . serpentes olim fuisse crederes, quos lapideus cortex intexissist. Hildæ autem precibus adscribit credulitas,*" (Camden, p. 419).

centre.²² To this Plot adds that Camden "and since him [a certain] Dr. Childrey plainly avouch that the *Ophiomor-phit's* of *Cainsham* have some of them heads, and that in *this* they differ from *those* of *York-shire*," of the story concerning whose heads Plot was at this time apparently ignorant.

That there are special geological reasons why this particular belief may not only be ancient but of remotest antiquity, the following account of the life-history of the ammonite (from the time of its appearance in the Devonian formation) will show :—

"It is an interesting fact that the very earliest Ammonites were straight, and gradually became closely coiled. This form was maintained almost constant throughout the vast periods of the Mesozoic age, till towards the end [in the Cretaceous period], when the whole race was about to die out, they seemed to try to go back to their original form, which some almost reached (Fig. 105), while others, as Professor Judd remarks (in a letter), "before finally disappearing, twisted and untwisted themselves, and as it were wriggled themselves into extraordinary shapes, in the last throes of dissolution." These strange forms (Figs. 96-106) are reproduced from Nicholson's *Palaeontology*, and there are many others. . . . The two species figured . . . from the Trias (Figs. 99, 100) may be taken as typical; but the variations in surface pattern are almost infinite."²³

It is certain that any chance local discovery of any such uncoiled forms as those just described would materially help to reinforce the popular belief that ammonites were petrified serpents; and it also seems impossible that in the course of centuries such discoveries should not have happened. I should, however, add, in case of misappre-

Gibson, the Translator of Camden (1722), adds that Nicholson called them *cornu ammonis*.

²² This second passage from Camden, as quoted by Plot (p. 116), says :—
"*Vidimus enim lapidem hinc delatum serpentis in spiram revoluti effigie, cujus caput in circumferentia prominuit, extrema cauda centrum occupante.*"

²³ A. R. Wallace, *The World of Life*, pp. 267-9, Figs. 99-106.

hension, that the description of these ammonites as coiling or uncoiling themselves has reference only to growth of the shell, and not to any conscious effort in the lifetime of any individual specimen, although this distinction would hardly suggest itself to our remote ancestors. But I understand that one of the most recent theories has reference to what I may call the possession of a terminable life-history by a genus, which is regarded as normally following a course roughly analogous to the birth, life, and death of an individual. The question here naturally suggests itself: Is it conceivable that early man, considering the extent to which his faculties must have been absorbed in the struggle for existence, should have paid any attention whatever to such things as fossils? Whatever may or may not be conceivable, there is, I think, unmistakable evidence that he did. In the first place, General Pitt-Rivers, during his excavations at Rotherly (Wilts) and Woodcuts (Dorset) reported that he came upon an altogether unnatural number of the flint echinoderms or sea-urchins in the surface soil, as well as in the pit-dwellings themselves. His conclusion was that these fossils, being conspicuous, must have been noticed by the early inhabitants of the villages, who had evidently collected them with great industry, and his purely provisional suggestion was that these fossils were used as a species of currency. There are, however, better reasons for thinking that they were employed as almost any very odd-looking stones to this day would be used by less civilized races in all parts of the world, *i.e.* on account of some fancied magical virtue. One fact distinctly pointing in this direction is given by Sir B. C. A. Windle, in his *Remains of the Prehistoric Age in England*,²⁴ where there is an illustration showing the plan of a double interment in a round barrow on Dunstable Downs, where a triple row of chalk echinoderms runs completely round the interment.

²⁴P. 145, Fig. 60.

To return to modern times, James Sowerby (1818) gives us an amusing anecdote of the Rev. W. Buckland, who, "having found a large specimen, was induced by his ardour to carry it himself, although of considerable weight, and being on horseback it was not the less inconvenient; but the inner whorls being gone so as to allow his head and shoulder to pass through, he placed it as a French horn is sometimes carried, above one shoulder and under the other, and thus rode with his friendly companions, who amused him by dubbing him an *Ammon Knight*." ²⁵

It is interesting to be able to add that the specimen thus honoured was the original specimen of *ammonites Bucklandi*, and that it came from one of the many quarries in the Lower Lias limestone of Pennycuick, near Tiverton, Weston, Keynsham, and other places near Bath.

All these snakestones are much of the same kind, but another Elizabethan, Richard Carew, in *The Survey of Cornwall* (first ed. 1602), gives us a snakestone of a different kind. His account runs (p. 21):—

"The countrey people retaine a conceite, that the *Snakes* by their breathing about a hazell wand, doe make a stone ring of blew colour,²⁶ in which there appeareth the yellow figure of a *Snake*; and that beasts which are stung, being given to drink of the water wherein this stone has bene socked, will therethrough recover. There was such a one bestowed on me, and the giver avowed to have seene a part of the stick sticking in it: but *Penes authorem* [sic ? *auctorem*] *sit fides!*" ²⁷

But the bridge over which most unmistakably we travel

²⁵ *Op. cit.*, vol. ii., p. 69.

²⁶ I asked Mr. Woodward if he could explain this, and he tells me that these snakestones, which may have come either from Whitby or Lyme Regis, are in many cases found in nodules of blue Lias limestone, which when split would disclose the ammonite within, perhaps a yellow or ochreous specimen, with the ring of blue limestone round it.

²⁷ From *The Survey of Cornwall*, written by Richard Carew, of Antonie, Esq.: quoted by Parkinson, *Organic Remains of a Former World*, vol. iii., p. 134, who remarks "among the notions which have been entertained respecting these fossils, none is more curious."

back to immemorial antiquity is a passage of Pliny, which in Holland's translation (p. 627) is given as under :—

“The pretious stone called Hammons-horne, is reckoned among the most sacred gemms of Aethiopia : of a gold colour it is, and sheweth the forme of a rams horne : the magicians promise, that by the vertue of this stone, there will appeare dreames in the night which represent things to come.”²⁸

Upon this passage Professor W. M. Flinders Petrie comments to me, in a letter of June 24th, 1911, that the reference in Pliny “evidently refers to pyrites casts of ammonites which are found from Lias up to Chalk.” Professor Petrie adds that he does not know of such late strata in Ethiopia, and that he has never found an ammonite in any Egyptian tomb or ruin. But he informs me that there *is* a coiled serpent amulet with head and tail, which is sometimes found in the prehistoric age in Egypt. This, he says “might be deduced from an ammonite, just as people in Wiltshire [and, as we have already seen, in other parts of England for centuries past] used to carve heads on the great ammonites and call them serpent stones.”

It remains to add some particulars of a most remarkable parallel to Pliny in the snakestone belief of India. For it has been conclusively shown that the *Salagrama*, a celebrated mystic emblem of Brahman ritual in north-west India, which is considered to be the embodiment of Vishnu, is in reality a specimen of black ammonite. After describing how the *tulasi* or “Holy Basil,” which is considered (*inter alia*) to be an embodiment of Krishna's wife Rukmini, is annually married in November to the god Krishna in every Hindu family, Mr. Frazer proceeds:²⁹—

²⁸ Pliny, *Natural History*, xxxvii., cap. 60. Mr. A. B. Cook writes to me that, according to Eratosthenes, quoted by Strabo (l. 1, cap. 3, s. 4), the precinct of Zeus Ammon (the oasis of Siwah), which is a deep depression, is strewn with shells and a salt deposit. He infers that this oracle became famous while still a coast-town on the arm of a vanished sea. The shells, Mr. Cook thinks, are *asterites*.

²⁹ Frazer, *Lectures on the Early History of the Kingship*, pp. 157-8.

“Again, as the wife of Vishnu, the holy basil is married to the *Salagrama*, a black fossil ammonite resembling a ram’s horn, which is regarded as an embodiment of Vishnu. In North-Western India this marriage of the plant to the fossil has to be performed before it is lawful to taste of the fruit of a new orchard. . . . [a man personating the fossil bridegroom and a woman the basil bride]. Further, no well is considered lucky until the holy fossil has been solemnly wedded to the holy basil, which stands for the garden that the well is intended to water. . . . The same marriage of the sacred fossil to the sacred plant is celebrated annually by the Rajah of Orchha at Ludhaura. A former Rajah used to spend a sum equal to about thirty thousand pounds . . . on the ceremony. On one occasion over a hundred thousand people are said to have been present at the rite, and to have been feasted at the expense of the Rajah. The procession consisted of eight elephants, twelve hundred camels and four thousand horses, all mounted and elegantly caparisoned. The most sumptuously decorated of the elephants carried the fossil god to pay his bridal visit to the little shrub goddess. On such an occasion all the rites of a regular marriage are performed, and afterwards the newly-wedded pair are left to repose together in the temple till the next year.”

A fuller account is given in the same author’s *Golden Bough*. He adds that a draught of the water in which the shell has been washed is supposed to purge away all sin and secure temporal welfare.³⁰ These fossils are found in Nepaul on the upper Gandaka, a tributary of the Ganges. Hence the district is called Salagrami, and is considered holy, and an object of pilgrimage. In a letter of May 26th, 1911, Mr. W. Crooke wrote me :—

“The *Salagrama*, to which numerous references are given by Frazer in his new *Golden Bough* (Pt. I., ii., 26 f.) is undoubtedly a very ancient “fetish.” It was specially adopted as a symbol of

³⁰ Vol. ii., pp. 26-7 (3rd ed.). Cf. Carew, p. 57 *ante*. I may add that Mr. E. Lovett has informed me of two cases in which ammonites were carried by fishermen to bring luck in fishing,—one at Oban and the other at Folkestone, the ammonites themselves being called fish at the latter place.

the god by the Vaishnava school, worshippers of Vishnu, a cult which seems to have been organized after the downfall of Buddhism. The earliest reference I can quote to it is from the *Mahābhārata*, which seems to have assumed something like its present form in or after the 5th century B.C. The words used (*Mahābhārata*, trans. Kisari Mohan Ganguli, vol. iv., p. 128), are "the stony image of Vishnu, with gold within."

It will be seen at once that the description here given of the ammonite of Vishnu is in one respect strikingly reminiscent of the description of Pliny, *i.e.* in regard to the observation made by him as to its "golden colour."

It only remains to consider whether there is any recognition from Indian sources of the coiled snake idea which has been familiar for so long a period in England and other parts of Western Europe. I think on the whole that we can say there is, for Mr. Crooke kindly writes to me:—

"The story told is that the fossil was Vishnu through which the Destroyer, as a worm, wound his way. It appears to me possible (1) that the word worm may be here used in its old English double sense of worm or serpent, and (2) that Siva, if anything, represents the worm and not Vishnu, who represents the stone."

Another of the widely-spread beliefs of our peasantry is the belief that the prehistoric stone implements found in all parts of the country, generally speaking, are "thunderbolts": indeed the best-known stone superstition is that the celt was a thunderbolt. Johnson rather uncritically remarks,—“That the various kinds of fossil belemnites, as well as the rounded concretions of iron pyrites from the Lower Chalk are also called thunderbolts, matters little. Gods, fairies, witches, and other like beings, have divers weapons for afflicting the ignorant peasant, bowed low in his fear.”³¹ It really matters a good deal! But I shall first take the various kinds in succession.

³¹ *Folk-Memory*, p. 125.

First, as to the belemnite, the Scottish geologist Hugh Miller, in *The Old Red Sandstone*,³² remarks that he

“was told by one of the workmen . . . that there was a part of the shore . . . where curiously-shaped stones, somewhat like the heads of boarding-pikes, were occasionally picked up; and that in his father’s days the country people called them thunder-bolts, and deemed them of sovereign efficacy in curing bewitched cattle.” [On visiting the spot Miller] “found one of the supposed *aërolites*” [he] “had come in quest of, firmly imbedded in a mass of shale.” [It proved to be a belemnite.]

Again, the earliest Scottish mention I have been able to find is in 1703, when Martin, in *A Description of the Western Islands of Scotland*,³³ speaking of Strath and Trotterness in Skye, remarks:—

“The *Velumnites*, (*sic*) grows likewise in these Banks of Clay, some of ’em are twelve Inches long, and tapering towards one end, the Natives call them *Bat* [*i.e.* “Bot”] *Stones*, because they believe them to cure the Horses of the Worms which occasion that Distemper, by giving them Water to drink in which this Stone has been Steept for some Hours.”

There is of course no mention here of thunderbolts.

At Whitby, according to Robinson,³⁴ the term thunderbolt applied to “the petrified remains of a kind of cuttle-fish, in the Whitby Lias, resembling tubes of various lengths and thicknesses tapering to a point.” The comparison here made between the “thunderbolt” of this kind and a tube is not quite accurate, since a tube is generally considered to be hollow, whereas these fossils are, with the exception of a small and shallow cavity at the upper end, perfectly solid, and may be more suitably compared to a cigar than to a tube. I may add that the Greek *Belemnion*, whence they get their name, means dart or javelin, and is connected with the verb “*ballein*,” to cast.

³² Pp. 10-3 (1841 ed.).

³³ P. 134.

³⁴ *A Glossary of . . . Whitby*, part ii., *s.v.* Thunner-bolts.

So, too, in J. Walcott (1779) we read that "the *Belemnite* receives its English name *thunder-bolt* from the vulgar, who suppose it to be indeed the darts of heaven."³⁵ The earliest mention, however, that I have been able to find is in R. Plot,³⁶ (1677), who says that from their form by all naturalists they are called belemnites, "from the Greek word *βέλεμνον telum*, which indeed some of them represent pretty well."

Again, J. H. Macalister writes³⁷ :—

"Mr. A. C. G. Cameron has informed me that Belemnites from the Oxford clay, south of Bedford, are ground up and used for sore eyes, also that when pounded, they are considered by the villagers of Buckinghamshire and Bedfordshire an excellent cure for rheumatism."

Again, in Gloucestershire belemnites from the Lias were used to cure watery affections of the eyes of the horse; the fossil was pulverized and the dust blown into the animal's eyes.³⁸

Turning to the extreme south of England, Mr. Lovett states that at Lyme Regis the belemnites of the Lias are hardly ever called by any other name but thunderbolts, and adds that it is a curious fact that in localities where the belemnites are not found the people, if shown any such things, not only do not regard them as thunderbolts, but ignore them as being "nothing."

Beyond remarking that, according to Parkinson,³⁹ they were also called "Devil's fingers," I shall not here follow up this question of the belemnite beliefs, but I may remark

³⁵ *Descriptions and Figures of Petrifications Found in the Quarries, Gravel-Pits, etc. Near Bath*, p. 39.

³⁶ *Op. cit.*, p. 93.

³⁷ *Geologist*, vol. iv., p. 215.

³⁸ J. Woodward, *An Attempt towards the Natural History of Fossils etc.* (1729), vol. i. p. 109.

³⁹ Parkinson, *op. cit.*, vol. iii., p. 122, where he also remarks that they are also called *lapides lyncis*, owing to their supposed origin from the urine of the lynx, and cites Ovid, *Metamorphoses*, lib. xv., v. 413.

that they may be expected to correspond roughly, in regard to their distribution, with the geological distribution of the belemnite-bearing strata. These occur in the south of England, as far west as Dorset, in all the south-eastern counties, and in eastern counties as far north as the Tees; also in the north of Scotland (Cromarty Firth), and the north-east of Ireland. They do not occur in Wales.

Allusion has already been made to the fact that the *echinus* was noticed and employed for some apparently magical or quasi-religious purpose by prehistoric inhabitants of these islands. The only question that remains is what that purpose could be, and unfortunately this is not very clear. On the one hand we have the fact that the so-called "snake's egg" of the Druids has been considered to be an *echinus*. On the other, various species of the genus *micraster*, which are popularly called fairy loaves, are still treasured by the labourer of modern Essex, who believes his household will never want bread so long as he retains one.⁴⁰ Again, Mr. G. W. Lamplugh informs me that he once had a fossil echinoderm, said to be a lucky stone and to have been used for making butter come, brought him for identification in south-west Ireland, the nearest chalk being in Antrim.

Last, but not least, the *echinus* is recorded by Plot⁴¹ to have been called a thunderbolt by the country people, no doubt from the rough resemblance of some specimens in shape to the nodules of iron pyrites, which are also so called.

The belief in what I may call the keraunic origin of the stone axehead and arrowhead has often been described as if it were universal in these islands, but, although it would be a matter of considerable labour and time, it would, no doubt, be possible to show that the alleged universality of the belief has been over-stated.

In Scotland there was a long list of ailments which

⁴⁰ *Folk-Memory*, p. 149.

⁴¹ *Op cit.*, p. 93.

could be cured by the "arrowhead." The water in which it had been boiled was good for eye diseases and for the pangs of childbirth; it was also valued by the cattle-doctor, down to the present generation.⁴³ Both are called thunderbolts, but the Rev. J. G. Campbell, who is quoted by Johnson in connection with stone arrowheads, described one of these objects as a smooth, slippery black stone, shaped like the sole of a shoe, and called it a "fairy spade."⁴⁴ There seems, however, to have been some confusion here, for obviously this stone from the description of its shape is our familiar stone axehead. A Scotch gentleman, writing in 1664, relates how a lady who was riding one day discovered one of these arrowheads or elfbolts in the breast of her habit, and how a horseman found one which had been placed by a fairy in the top of his riding-boot. Robert Kirk (1691) in his *Secret Commonwealth* describes these "Armes (solid earthly Bodies)" as "cut by Airt and Tools it seems beyond humane," and as having "something of the Nature of Thunderbolt subtilty."⁴⁵ "They are flung like a Dairt, with great Force, and mortally wound the vital Parts without breaking the Skin."⁴⁶ Again, mounted in frames, small arrowheads were worn as amulets around the necks of Scottish ladies. A specially good example of this⁴⁷ was the old-time witch-brooch, a little silver heart formerly pinned to the child's underclothing at its first dressing by the peasantry of Aberdeenshire. The shape is believed to have been derived from its being originally the mounting of an elf-shot or fairy dart, *i.e.* flint arrowhead. An old man in Kincardineshire thirty years ago had a "fairy dart" as a safeguard against witchcraft. Lastly, we may add one special use of the stone arrowhead in the witchcraft of Scotland. They were used in

⁴³ Cf. Sir J. Evans, *The Ancient Stone Implements etc. of Great Britain*, pp. 51 *et seq.*

⁴⁴ *Folk-Memory*, p. 122.

⁴⁵ P. 10.

⁴⁶ *Folk-Memory*, p. 124.

⁴⁷ *Folk-Lore*, vol. xx., pp. 231-2.

preference to metal to pierce or cut the wax or clay images which were once commonly used to represent the intended victims of the rites in question.

Turning to Ireland, we find that there, too, the medicinal use of the flint arrowhead has long been known, for two centuries ago (in 1709) we find mention⁴⁸ of a "thunderbolt or head of a spear" from Kerry, and down to 1865 the Irish continued to put celts in the troughs at which they watered their cattle, and in county Antrim neolithic flint arrowheads are used as amulets.⁴⁹ In the north of Ireland generally, where polished diorite celts are often turned out of the ground, Mr. Lovett states that there was a time when every cottage kept one on the rafter as a safeguard against lightning.

Of Whitby, Robinson has stated that the ancient British flint "arrow-points" were called "elf-shots," that cattle suddenly excited were formerly supposed to be shot at with these implements by the fairies, and that to cure an "elf-shotten" animal it must be touched with one of these arrows, and the water administered in which an arrow has been dipped.⁵⁰ And Johnson quotes Dr. Hickeys, in a letter to Pepys (1700), as describing these elf-bolts, clearly believing that they were driven straight to the hearts of cattle.⁵¹ Sir J. Evans states that in the north of England the celt is called a thunderbolt, and in the west country a thunder-axe. Again, in Cornwall, as elsewhere generally, the celt was boiled in water, which was used as a remedy against rheumatism.⁵² Of course, if there were any object in doing so, such facts could be indefinitely multiplied, but the important thing to note is that Mr. Lovett has stated that he knows places in England where such "thunderbolts" as tangible objects are quite unknown. The earliest

⁴⁸ *Folk-Lore*, vol. xxii., p. 53.

⁴⁹ *Folk-Lore*, vol. xxi., p. 7.

⁵⁰ *A Glossary of . . . Whitby*, part i., s.v. Awfshots.

⁵¹ *Folk-Memory*, p. 124.

⁵² Evans, *op. cit.*, p. 51.

English reference that I have been able to find is from the Oxfordshire naturalist, Plot, who in 1677 wrote⁵³ that

“besides the *Brontiaë* [*i.e.* thunderbolts] of the Forreign *Naturalists* we have others, which here in *England* we call likewise *Thunderbolts*, in the form of *arrows heads*, and thought by the vulgar to be indeed the darts of *Heaven*.”

This statement, (which seems to be the source of Walcott's remark), is the more remarkable since along with these arrowheads he identifies as *Brontiaë* the fossil echinoderms, to which reference has already been made. After speaking of selenites and other stones which he considered to be “some way related to the Celestial Bodies,” Plot proceeds⁵⁴ :—

“I descend next to such as (by the *vulgar* at least) are thought to be sent us from the *inferior Heaven*, to be generated in the *clouds*, and discharged thence in the time of *thunder* and *violent showers*: for which very reason, and no other that we know of, the ancient *Naturalists* coined them suitable names, and called such as they were pleased to think fell in the *Thunder*, *Brontiaë*; and those that fell in *showers*, by the name of *Ombriaë* . . . [of which] we have several sorts in *Oxford-shire*.”

I may also mention that Sir J. Evans⁵⁵ gives the best account of their distribution I have been able to find. After describing their distribution in Great Britain and Ireland, he proceeds to give an account of their distribution on the Continent, giving examples from Brittany and other parts of France, Savoy, various parts of Scandinavia, (where celts inscribed with runes occur), Germany, Holland, Portugal, Italy, and Greece. In the last country they are called *astropelekia*, and Sir John states that, about 1081, the Byzantine Emperor Alexius Comnenus sent to the Emperor Henry III. of Germany *ἀστροπέλεκιν δεδεμένον μετὰ χρυσαφίου*, *i.e.* probably a celt of meteoric origin

⁵³ *Op. cit.*, p. 93.

⁵⁴ P. 90.

⁵⁵ *Op. cit.*, pp. 51 *et seq.*

mounted in gold. Sir J. Evans, I may add, traces back this keraunic belief about celts in Greece to about 2000 years before our time.

So far do our modern facts take us, but this in itself is only the beginning. A little research will show us that there is unquestionable evidence as to the immense antiquity of this "elf-shot" idea in English. In Cockayne's *Leechdoms etc.*⁵⁶ we find a very remarkable Anglo-Saxon incantation "Against the Stitch," of which I shall here give a literal rendering. The spell begins, as is so very frequently the case, with a sort of rubric, which recited the objects to be used in the charm for which the incantation is to be sung, and describes the method of their application. This rubric, which I propose to take first, runs as follows:—

"Take fever-few and the red nettle which grows in the yard, and "way-bread," and boil them in butter."

"Fever-few" is an Anglo-Saxon name for the well-known plant *pyrethrum parthenium*, and is borrowed from the Latin *febrifugia*, a febrifuge or "fever-chaser." The "red nettle" is familiar enough, and "way-bread" is the plantain, a strange Anglo-Saxon name that has survived right on down to modern English, but the real meaning of which is not, as might be supposed, "*bread* that grows by the way," but "way-broad," or more strictly speaking, "way-breadth," a fact that will be evident as soon as we recall its modern German equivalent *Wege-breit*, even were it not that the application of "broad" or "breadth" to the leaves of the plantain in itself has an application that is perfectly fitting. These three ingredients, then, fever-few, the red nettle, and the plantain, were to be boiled in butter, no doubt for external application to the real or supposed wound in the form of a poultice. It is at this point that the magician begins his incantation:—

⁵⁶ Vol. iii., p. 5^a.

“They [that is the enemy] were noisy, yea noisy,
 When they rode over the burial-mound [or barrow].
 They were of one mind when they rode over the land.
 [Then to the patient] Shield thyself now, that thou mayest
 recover from this attack.
 ‘Out, little spear!’—if it be herein.”

Here this particular charm ends, and another begins, which is evidently given either as a reinforcement of the preceding one or, as would seem more probable from the wording, as a reply to be made either by the patient himself, or, as is usual, on behalf of the patient by the medicine-man himself:—

“I stood under the shield, Under the light shield,
 Where the mighty wives [*i.e.* witches]
 Made ready their strength [*i.e.* prepared for the contest].
 And they, yelling, sent forth their spears [gar].
 I will send back upon them Another flying arrow,
 Right in front. ‘Out, little spear!’ if it be herein.”

Here again follows a new charm, which runs:—

“There sat a Smith, He wrought a little ‘sax’;
 He hammered the iron head;
 ‘Out, little spear!’—if it be herein.”

Now comes what seems to me by far the most important and striking lines of the entire scene:—

“Six smiths sat, and they wrought spears of slaughter.
 ‘Out, spear!’ not ‘In, spear!’
 If there be herein a piece of iron which is the work of the hag,
 it shall melt.
 [Turning to the patient] If thou wert shot in the skin,
 Or if thou wert shot in the flesh,
 Or wert shot in the blood, Or wert shot in a limb,
 Never let thy life be injured. If it were a shot of the gods [Aesir],
 Or if it were a *shot of the elves*,
 Or if it were a shot of the hag, Now will I help thee.
 This is thy remedy against the shot of the gods,

This is thy remedy against the *shot of the elves*,
This is thy remedy against the shot of the hag,
I will help thee !
[To the evil spirits] Flee to the mountain-head !
[To the patient] Whole be thou, The Lord help thee !”

This magnificent incantation concludes here with the rubric “Here take the knife (*seax*), and put it in water,”—no doubt for the purpose of immediate administration. The knife was dipped into water, and the water drunk by the patient, in the very same way that water in which a stone implement has been dipped is to this day medicinally drunk not only, as I myself am aware, by the Malays, but by very many other races in the earlier stages of culture. The word *sax* or *seax* is of especial interest. The Anglo-Saxon form was *seax*, the Mercian *sax*, and they are both not borrowed from but cognate with the Latin *saxum*, which even in Latin meant a weapon, (as in Vergil, *Aeneid*, Bk. I.—*jamque faces, et saxa volant*). It may well be that originally to the Anglo-Saxons, as well as to the Romans, *saxum* was once a stone, but of this stage there is no trace in Anglo-Saxon, whereas “stone” is the quite regular and usual meaning of the word in Latin, the records of which go back to nearly 1000 years earlier than our existing Anglo-Saxon records, the date of these particular charms being perhaps about the tenth century.

So in the Icelandic legend of Gylfaginning, one of Thor’s three precious things is the hammer “that giants and ogres know well, when it comes flying through the air,” and this hammer is believed by Montelius⁵⁷ to have been a development from the sun-god’s axe, a fact which brings these old Scandinavian beliefs very near to those contained in our own English charms. It only remains to consider why the stone celt or other weapon was used as a remedy for anyone who had been wounded by a similar weapon. I believe the true reason for this to be precisely

⁵⁷ *Folk-Lore*, vol. xxi., pp. 60-78.

identical with the reason for curing a snake-bitten man by the snake that bit him, *i.e.* that the patient by entering, so to speak, into 'blood-brotherhood' with the offending weapon, obtained relief. For we must remember that to them the weapon, like other inert objects, would yet be animate, as I shall hereafter show.

For classical times Mr. A. B. Cook may be relied upon,⁵⁸ but Sir J. Evans quotes a remarkable passage referring to celts in Suetonius, who mentions, as an augury of Galba's accession to the throne, that lightning fell into a lake in Cantabria and 12 axes were found, "a by no means ambiguous omen of empire," (*Galba*, viii. c. 4).

With regard to the rest of Europe, those who wish may refer to Montelius,⁵⁹ who traces the axe cult back to Perun, the god of thunder in Slavonia, and to Stone-Age examples in Ancient Gaul, Greece, and Scandinavia, where the thunder-god's hammer was developed among natives who were familiar, or had been very recently familiar, with the use of stone implements. We should hardly have expected, therefore, to find it in either North or South America, though according to Evans⁶⁰ it does occur in Brazil, which is a country that can hardly be considered free from European influence. The examples given by Tylor are not examples of flint implements being so regarded, but of natural stones (of flint etc.). He states, for instance, that

"the lightning entering that ground scatters in all directions thunder-bolt stones, which are flints, etc., their reason for this notion being the very natural one, that these siliceous stones actually produce a flash when struck."⁶¹

After giving several examples which have no direct

⁵⁸ See "The Cretan Axe-cult outside Crete," *The Transactions of the Third International Congress for the History of Religions*, vol. ii., pp. 184-94; cf. also Blinkenberg, *The Thunderweapon in Religion and Folklore*.

⁵⁹ *Folk-Lore*, vol. xxi., pp. 60-78.

⁶⁰ *Op. cit.*, p. 52.

⁶¹ *Primitive Culture*, vol. ii., p. 238 (2nd ed.).

bearing on thunder-bolts, Tylor proceeds to describe the Peruvian belief about a deity called Catequil the Thunder-god, child of the Heaven-god, who in thunder-clap and flash hurls from his sling the small, round, smooth thunder-stones, treasured in the villages as fire-fetishes and charms, to kindle the flame of love. It will be observed here that Catequil's thunderbolts are also but stones, and certainly not stone implements.

Information as to the keraunic axehead seems, for whatever reason, very slight for China. We must hope that fuller information will turn up. Sir J. Evans⁶² states that in China celts are called lightning stones, (which suggests the keraunic belief), but Professor Giles, in a letter of May 25th, 1911, wrote to me:—

“Although there is a large literature of stones, including meteorites, talismans, auspicious stones, etc., to be found in Chinese, I know of no instances of stone implements such as those you mention having been used in China. The earliest ploughshares, for instance, were made of wood. Stone has been employed for pestles and mortars, since early days, but apparently not for cutting implements.”

For the existence of the belief in Japan, we have the authority of Montelius⁶³ and Evans.⁶⁴

A similarly disappointing result is obtained from Egypt, with regard to which Professor Flinders Petrie wrote to me on May 21st:—

“There is an abundance of stone implements in Egypt, of all periods. But I do not know that any beliefs about them existed either with reference to powdering them or as to a thunderbolt origin. The only suggestion to the contrary, which has come from Professor Newberry, of Liverpool, is, I understand, to the effect that belemnites occurring in the Eocene limestone at Ekhmein in Upper Egypt *may* have been regarded as a thunderbolt, and may have suggested the standard of the god Min. The

⁶² *Op. cit.*, p. 53; cf. Blinkenberg, *op. cit.*, pp. 117-8.

⁶³ *Folk-Lore*, vol. xxi., p. 60.

⁶⁴ *Op. cit.*, p. 53.

question as to whether in this particular example we have a true thunderbolt belief, or merely one founded on European analogies, is a question upon which I myself am unable to enter." To this Professor Petrie added, "I have never met with pyrites nodules kept in graves or houses, except selected even balls for playing a game. Peculiar flints selected are often found, so the idea was familiar, but pyrites was unnoticed. One name for *iron*, however, was *ba ne pat* (iron of the sky), and this was applied both to haematite and native iron. The *idea* of meteoric iron was thus known, but the material was disregarded."

The only Egyptian example I have been able to find is described by Sir J. Evans,⁶⁵ who says that a celt of nephrite engraved with gnostic inscriptions in Greek was found in Egypt many years ago, and appears to be unique.

In Africa the sole example of the keraunic belief given by Tylor is that of Djakuta or Jakuta, the Stone-Caster of the Yoruba, usually called Shango, the Thunder-god, who, as among so many other people who have forgotten their Stone Age, flings down from heaven the stone hatchets which are found in the ground and preserved as sacred objects. A fuller account of these Yoruba beliefs is given by Dwyer,⁶⁶ who states that the ancient axeheads or celts found in the country and called *adura* are "messengers from," not the bolts of, Shonga the local Thunder-god, and that they have peculiar properties when "fresh." When a house is struck by lightning and fired, it is visited by the priests of Shonga, who are strongly "possessed" (by the spirit), and succeed in producing the thunder-stone from its ashes, a fee being charged by the priests for the performance. Mr. Dwyer could never ascertain where the stones came from, even the offer of heavy bribes failing to extract the information, the invariable reply being "they come from Shonga." Further, "if a person offends some of the Elders or commits some crime," his house will be burnt a few days afterwards,—the priests

⁶⁵ *Op. cit.*, p. 54.

⁶⁶ *Man*, 1903, p. 184.

will see to this,—and then the priests arrive and find the stone, and exact the usual heavy penalty. Again, a form of ordeal consists in drinking from a bowl of water in which either a thunder-stone or the skull of a person who has been killed by lightning has been dipped.

It may be concluded from the numerous accounts which refer to the keraunic belief either in Nigéria or other parts of West Africa that it is chiefly localized in that part of the continent, and indeed there does seem to be some good ground for thinking so. Mr. Henry Balfour, for instance,⁶⁷ remarks that :—

“Western Africa is no exception to this general rule (of the keraunic belief). Sir R. Burton, the Rev. T. T. Bowen, Major A. B. Ellis, and others, all refer to this belief in this region. Burton and Winwood Reade have told us that on the Gold Coast stone axes were called “thunderstones” (*sráman-bo*) and “god-axes,” and were carefully preserved for their supposed universal virtues. A specimen was found by Mr. Kühne on an altar or shrine at Ashanti. In that region, too, they were called “god-axes.””

Ellis gives a similar account of flint arrowheads and axes on the Slave Coast, among the Ewe-speaking people,⁶⁸ who believe them to be “thunderbolts” associated with their god of lightning. In Benin, according to Mr. Balfour,

“the superstitious reverence with which stone axes were regarded . . . is abundantly manifest from the frequent representations of these objects upon the elaborate bronze castings, especially upon some of the larger human heads and the state maces. Upon the latter the surmounting human figure is frequently represented as holding a neolithic axe blade in the left hand. By analogy we may assume that in Benin the stone axes were “thunderbolts,” and became objects of veneration as symbols of the thunder-god.”⁶⁹

⁶⁷ *Man*, 1903, p. 183.

⁶⁸ *The Ewe-speaking Peoples etc. of the Slave Coast*, pp. 37-8.

⁶⁹ *Man*, 1903, p. 183.

In addition, Mr. Balfour describes two small bronze models of celts from Benin which were found with a number of similar models, and were perforated for stringing; these are said to have formed a necklet, and in Mr. Balfour's opinion were probably symbolical of the god of lightning. But, if they were anything more than a necklace worn for mere ornament, may they not have been worn, more probably, for quasi-medical reasons?⁷⁰

Dr. J. G. Frazer, in connection with this subject,⁷¹ gives a number of references, all of which, if we take the African ones, are localized in the western portion of the continent, with a single exception, that of a keraunic belief similar to those we have been describing, which was recorded by the late Lieut. Boyd-Alexander from Central Africa (in the district named from the Welle, a tributary of the Congo). Of course this is not to say that occasional examples outside this area never occur; but we can at least safely say that the centre of distribution of such implements, as well as of the corresponding beliefs about them, so far as Africa is concerned, is the western part of the continent.

In respect to the distribution of the belief in India, where the Stone Age still survives side by side with the use of metal in various parts of the country, D'Alviella⁷² quotes several references. Montelius states that gods with the symbolic double axe occur in various parts of ancient Greece, Syria, Asia, etc.⁷³ Tylor notes⁷⁴ that the Vedas "are full of Indra's glories," and gives several passages in which his thunderbolt,—the "heavenly stone" the primeval smiths had sharpened for him, a kind of stone axe, according to Montelius,—is referred to, and Mr.

⁷⁰ It is perhaps worth considering whether the double-headed axe-models once employed as votive offerings at shrines in ancient Crete may not be fairly compared to the god-axes offered in Ashanti.

⁷¹ *The Golden Bough* (3rd ed.), Part I., vol. ii., p. 374.

⁷² *The Migration of Symbols*, pp. 99-100.

⁷³ *Folk-Lore*, vol. xxi., pp. 62-6.

⁷⁴ *Primitive Culture*, vol. ii., p. 240.

Crooke informs me that the Hindus call the symbol of the thunderbolt *vajra* (a sort of forked trident), but adds,—“It cannot be said whether in early times they connected it with the celts.” Frazer gives three examples of celts regarded as thunderbolts, but all these are from southern and central India. In the former region they are said to be the thunderbolts of Vishnu.⁷⁵ Sir J. Evans⁷⁶ says they are renovated and placed against the Mahadeos, or painted red and treated as Mahadeo. In northern India such things are practically unknown in the great plains, being found only on the hills fringing the valley of the Ganges. The people regard them as uncanny, and pile them up at village shrines. As to their being called *thunderbolts*, it is difficult to speak generally, but in the Nāga Hills at all events they are considered to have fallen from heaven,⁷⁷ and in Burma the belief is as definite as anywhere else in the world, as we learn from Capt. C. J. F. S. Forbes⁷⁸:—

“Their oaths are generally taken by drinking the water out of a jar in which a musket, spear, sword, a tiger’s and a crocodile’s tooth, and a stone hatchet or ‘celt’ (which they deem a thunderbolt), have been immersed, calling on the spirit of each of these means of death to punish the committal of perjury.”

There still remains one form of the keraunic belief which is diametrically opposed to everything we have yet met,—the belief that thunderbolts, or *batu halilintar*, as the Malays call them, are not hurled from the sky, but rise out of the ground, and strike upwards, the lightning also originating, not from the clouds, but from the agitated movements of large wild animals. This belief was recorded by Mr. J. B. Scrivenor,⁷⁹ but I have also myself heard suggestions of this kind from the Malays, and a definite account of the lightning part of it was included in the

⁷⁵ Thurston, *Ethnographic Notes in Southern India*, p. 351.

⁷⁶ *Op. cit.*, p. 53.

⁷⁷ Mr. W. Crooke.

⁷⁸ *British Burma etc.*, p. 252.

⁷⁹ *Man*, 1908, pp. 105-6.

Expeditionary notes taken on the visit of the Cambridge exploring party to the Siamese-Malay States on the east coast of the Peninsula in 1900. I shall first, however, give Mr. Scrivenor's account, which was obtained in writing from an educated Perak Malay named Mahomed Mansur, the son of a minister of the ex-Sultan Abdullah of Perak. It is as follows :—

“There are certain things called *batu lintar*. Men say that a Jin makes them out of stiff clay and that they are always found in the ground. The Jin piles them one above the other, close together, while they are still soft. If they are left they become quite hard. When they are hard enough, if the Jin wishes to kill an enemy (another Jin), he takes out the stones, and the power of the Jin is such that they become red like fire and (are surrounded by fire so that) their shape is like a coconut. If any mortal comes within range of the emanations from these stones, though they may be thirty *depas* distant, he cannot help fainting away. If a tree is struck by one, it is as though that tree were struck by a bullet, but the mark runs zig-zag from the trunk to the branches. Men who are struck by the emanations from these stones become as though burnt and turn red ; but no one is ever struck by the stone itself. . . . Men say that the Jin who owns the stones does not purposely wound a man's body. When the Jin throws a stone at an enemy and the enemy in trying to escape runs close to a mortal, then the stone follows him and in passing causes him to faint away. When a man has fainted away one must not touch him. If he is touched he is sure to die. But if one searches near the man it will be found that the Jin has thrown down a tuft of grass tied in a knot. If this is dipped in water and the water sprinkled over the man who has fainted, he recovers. Again, men say that when one finds a *batu lintar* that has not yet burst into flames it will never burst into flames if a little bit is chipped off the stone. But if this is not done when there is a high wind that *batu lintar* will explode with the noise of a cannon. Therefore, whenever a man finds a *batu lintar* he chips it slightly.” . . . “I have questioned Mansur as to the cause of lightning. He tells me it is explained by Malays in many different ways. One

cause is a Jin throwing a *batu lintar* at his enemy. Another is a big animal, such as an elephant or a bison, shaking himself in the jungle."

Mr. Scrivenor gives the main points of the belief as they were told to himself, and the essential facts are that *batu lintar* are found in the ground and that they gradually get harder or riper. When they are hard or ripe they rise out of the ground and burst with a loud report, and when they strike a tree they first strike a trunk and then the branches. They are powerful magic till they are chipped, when they lose their power. "Lightning comes out of a herd of big game, such as a herd of elephants." Upon this I may remark that, though I cannot give any specific example as to the belief that the thunderbolt strikes upwards, rising up out of the ground and first reaching the stem and then the branches, the idea is certainly neither unfamiliar to me in the character of a Malay belief, nor is it in any way surprising, the only point of which I am in any doubt being as to whether these bolts do not rise *after they have fallen* as in the German belief that they rise nine days later, mentioned by Sir J. Evans.⁸⁰ For the internal evidence of Mansur's own account shows that in some cases at least the Jins must cast them down, or they could not hit human beings. An exactly similar belief is held by the Malays with regard to other shaped things found in the earth,—with regard to treasure jars, for instance, of which I will presently give an example; and I may add that the Malay belief as to other such objects is certainly that they sink into and rise up out of the ground, and this idea, so far from being rare, is quite common,—I may in fact say, without the least exaggeration, that no well-conducted Malay "treasure-jar" or crock or anything of that kind ever does anything else. Moreover, the parallel is exact, as regards the chipping of the vessel's lip, which is done because the Malays believe that the *semangat* or soul

⁸⁰ *Op. cit.*, p. 52.

which in their view pervades all things inert as well as animate, will not remain when its counterpart is marred ;⁸¹ for we must think of the *semangat* as a diminutive model or counterpart of the object which it inhabits. Thus, when the substantive jar or urn is chipped or broken, it no longer agrees identically with its spiritual archetype, (which appears to be something quasi-material or more nearly approaching what we should call one of the Platonic ideas) ; hence the spirit or soul, which the Malays call *semangat*, consequently flies. It is for this reason that the clay models of bullocks and other animals, which are offered at shrines, as I have seen in the Malay Peninsula, are broken before being offered. For the least fracture expels or destroys their *semangat*.

I will conclude with an account of "lightning" which I myself took down in 1899 from the Malays in Ulu Pahang, which, taken together with Mr. Scrivenor's account of the thunderbolt, I think should be sufficient to show that Malay ideas on the subject of storm phenomena are quite different in character to our own. The gist of the whole matter is, (as I hope immediately to show), that the thunderbolt or jar or other inert object, so long as it is uninjured, possesses a vitality of some sort ; on the other hand, the Malay ideas about lightning suggest electricity.

"Lightning *ascends* from creatures on earth. All living creatures possess this lightning (which is so powerful that), if we are merely startled, our own lightning can be perceived by our foes. Lightning is of several different kinds :—

1. The elephants'-herd flash or elephants'-crowd flash, which has a very broad appearance [*i.e.* sheet lightning] ; this is the kind of flash that ascends from a herd of elephants.

2. Bison lightning, which is greenish.

3. Tiger lightning, which is yellow.

All the foregoing are silent and have no thunder.

⁸¹ So too Pliny tells us of a stone, "within the Isle Scyros," which floats when whole, and sinks when marred, (Holland's translation (1634), vol. ii., p. 587).

4. Sky-crash lightning, or sky-stride lightning, *i.e.* lightning with thunder.

In Selangor treasure pots or jars of the kind called Bedena are alive until they are chipped (*sumbing*), whereupon they die. They have been known to pursue people by rocking after them (*tergolek-golek*), in which case [*i.e.* if you are pursued by a treasure jar] it is safest to run away. If, however, you are a lucky sort of person, and avoid all exclamations of delight [at being chased by a treasure jar, presumably,—the Malay word is *tekupor*], but quietly and determinedly take your jungle-knife and chip the jar's edge, you may secure its contents. Some people have been fortunate enough to catch them with a hook when fishing, but even then there is often much trouble in securing them, as at the smallest provocation or excuse they will retire again to the bottom of the river."

I may add that several references to the belief in the wider Malayan region are given by Frazer,⁸² and Sir J. Evans⁸³ states that in Java celts are called "lightning teeth."

In this brief survey we have thrown the net broadcast, and I think we shall on the whole be justified, not only from the distribution of the beliefs, but of the objects themselves, in concluding that the keraunic belief as applied to stone implements though world-wide is so far from being in any way general or universal, as has too often been stated or implied; that it does not occur at all, or only quite locally and exceptionally, over the greater part of the world,—*e.g.* in China or in Egypt, or the greater part of North and South America, that it is but partial in India, and is very limited as to area in Africa and elsewhere; that it is not at all general anywhere, except possibly in the Indo-European regions, (though in both areas it is far from being universal); and that it also occurs in some countries which are or have been formerly under strong and direct European or Indian influence. We have seen

⁸² *The Golden Bough* (3rd ed.), Part I., vol. ii., p. 374 n.

⁸³ *Op. cit.*, p. 53.

above that both the snakestone and the stone thunderbolt are embedded deeply in the folklore strata of many parts of Britain and the Continent, and hence we may conclude that they both once formed part of the religion of these islands, but have been so overlaid by Christianity that they now represent not merely beliefs about fossils, but also what may perhaps be called some "fossil beliefs" of Britain as well. Above all we have found a possible link between the two classes of belief in the fact that both celts and ammonites are in India connected with the worship of Vishnu.⁸⁴

WALTER W. SKEAT.

⁸⁴I have to express my very great indebtedness, in particular to the geological friends who have helped me with this paper, among whom I may specially mention Dr. F. L. Kitchin, Mr. G. W. Lamplugh, Mr. H. B. Woodward, Mr. H. Woods, and Professor T. M'Kenny Hughes, as well as to Mr. W. Crooke, Professor Giles, Professor W. M. Flinders Petrie, Mr. E. Lovett, Mr. A. B. Cook, and last, but not least, my father Professor Skeat, to whose kind help is due most of what is valuable in the quotations from the earlier English records.



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Snake Stones

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COLLECTANEA.

SNAKE STONES.

THE belief in snake stones, which have magical properties, particularly the power of curing snake-bite or acting as an antidote to poison, is widely distributed. In tropical climates, where venomous reptiles abound in great variety and man under more primitive conditions of living is less protected against attack, the absorbing terror of snake-bite is intelligible enough. In Western Europe, however, where snakes are less numerous, and poisonous varieties comparatively infrequent, the pre-occupation with snake-bite is more surprising. None the less, medieval medicine and modern folklore testify to the deep impression made by terror of the snake upon popular imagination, and it is significant that Pliny gives to snake-bite the place of honour in his list of ills which may be remedied by simples.¹ For this preoccupation the instinctive horror inspired by reptiles, to which classical poets plead guilty,² and only the impartial man of science rises superior,³ may in part account, together with the awe-inspiring disproportion between the size and insignificance of the serpent and the speedy and fatal results of its attack.

¹ Verum et effectus ususque dicendi sunt ordiendumque a malorum omnium pessimo est, serpentium ictu. Pliny, *Nat. Hist.* xxv. (55), 99. Cf. *ib.* xxviii. (42), 149.

² Homer, *Iliad*, iii. 33-35; Theocritus, xv. 58.

³ "I cannot start at the presence of a Serpent, Scorpion, Lizard or Salamander: at the sight of a Toad or Viper I find no desire to take up a stone to destroy them. I feel not in myself those common Antipathies that I can discover in others." Sir Thomas Browne, *Religio Medici*, ii. 1.

Of snake stones various kinds may be distinguished. Stones or marbles, which in their shape or markings suggest a resemblance to snakes, have been thought to have the property of curing snake-bite. Among these may be reckoned various fossils, such as ammonites or the fossil shark's teeth which in the Middle Ages went by the name of "snakes' tongues."¹ Serpentine and ophite, which owe their names to the markings of waving lines or spots with which they are variegated, equally with stones which resembled snakes in shape, were used as antidotes.² In Pliny's time varieties of these marbles, which were in secular demand for the purposes of architectural decoration,³ were worn as amulets and used to cure headache or snake-bite.⁴ In the fourth century A.D. the Orphic *Lithica* recommends the rubbing of ophite into unmixed wine as an infallible potion, and alleges that Philoctetes was thus healed by Machaon.⁵ A rival theory suggested that Philoctetes was cured by *Lemnian Earth*,⁶ which already in the time of Pliny was sold in sealed packets and hence called *sphragis*.⁷ It is therefore worth noticing that Pliny remarks of it that in the native mass it is red, but "is spotted on the exterior."⁸ This

¹ W. Skeat, "Snakestones and Stone Thunderbolts," *Folk-Lore*, xxiii. pp. 45-80. America may be added to the area over which the belief in the ammonite snake stone is distributed. A fragment of an ammonite presented by a Sioux chief as "good medicine" was exhibited at the Folk-Lore Congress of 1891. *International Folk-Lore Congress*, 1891, p. 445.

² Similarly in Malta pebbles which resemble in colour the eyes, heart, liver, or tongue of snakes are worn as amulets or used for steeping as an antidote. Like *Maltese Earth* (for which see Hasluck, *B.S.A.* xvi. p. 228) they are connected with the traditional cave of St. Paul. Skeat, *op. cit.* p. 48.

³ Martial, vi. 42. 12-15; Statius, *Silvae*, i. 5. 35. Cf. Dionysius Periegetes, 1013.

⁴ Pliny, *Nat. Hist.* xxxvi. (11), 55-56.

⁵ Orphic, *Lithica*, x. 335 f., 11. The story that Philoctetes was cured by means of ophite is repeated by Tzetzes, *ad Lycophron.*, 911.

⁶ Philostratus, *Heroica*, vi. 2. For the history of Lemnian Earth see Hasluck, "Terra Lemnia," *B.S.A.*, xvi. pp. 221 foll.

⁷ Pliny, *Nat. Hist.* xxxv. (14), 33-35.

⁸ Pliny, *Nat. Hist.* xxxv. (13), 31. Glaebis suus colos, extra maculosus.

suggests that originally, like ophite, it may have owed its reputation in part to its spotted appearance resembling the markings of a snake. In part, no doubt, the adhesive and absorbent qualities of the earth, which were palpable to the touch,¹ suggested and maintained the belief in its efficacy as an agent which sucked poison out of the patient.

Stones of this type, which by their shape or markings resemble snakes, are naturally thought to be curative in virtue of homoeopathy. Just as the application of the body or fat of a dead snake² or a draught of viper wine³ are sovereign against snake-bite or poison, so the application of a stone resembling a snake or the drinking of a concoction, in which it has been steeped, will produce similarly desirable results. Analogous is the use of the herb *dracunculus*, which, being spotted like a viper's skin, enjoyed a reputation as a specific against snake-bite.⁴

¹ Thus in a letter written between 1603 and 1607 a Yorkshire squire is recommended to put a local earth on the market as a rival to the expensive *Terra Sigillata*. (The revival of the use of Lemnian Earth in sixteenth century was followed by the exploitation of substitutes in many countries of Europe (Hasluck, *op. cit.* pp. 226 foll.), and they were eagerly sought in the New World. Thomas Heriot, *Report of Virginia*, 1588, in Hakluyt, *Voyages* (Glasgow, 1904), viii. p. 354). It "might in my conceyte be employed in makeinge of such red pottes as come from Venice, which are sold very deare, by reason of the vertue ascribed unto them, what secret operatyon is in these pottes I know not, but I am well assured that this earth, both the white and the red, beinge put to one's lippes, will stycke fast to them, even as those pottes doe." "A Description of Cleveland in a Letter addressed by H. Tr. to Sir T. Chaloner," quoted in Gutch, *County Folk-Lore*, II., *The North Riding, etc.*, p. 176. Cf. Sir Thomas Browne, *Pseudodoxia*, ii. cap. iii. The Palestinian earth from which the body of Adam was supposed to have been formed was exported to the East in the seventeenth century on account of its magical and medicinal qualities. This too was reddish in colour and like wax to handle. Zuallardo, *Il Devotissimo Viaggio di Gierusalemme*, Rome, 1587, pp. 262-263.

² Pliny, *Nat. Hist.* xxix. (22), 71; Hunt, *Romances and Drolls of the West of England*, 2nd series, p. 215; *Folk-Lore*, xxii. p. 305.

³ Pliny, *loc. cit.*; Skeat, *Folk-Lore*, xxxiii. p. 48.

⁴ Pliny, *Nat. Hist.* xxv. (6), 18. Cf. the similar use of Viper's Bugloss (*Echium Vulgare*), the seed of which resembles a serpent's head. Bilson, *County Folk-Lore*, III., *Leicester and Rutland*, p. 33.

The jewelled appearance of some of the more venomous species and the phenomenon of fascination, by which snakes paralyze their victims, may have suggested the almost universal belief that snakes possess a jewel or stone, or that a stone is to be found in their head or body which possesses magical properties. The sorcerers of the Roro-speaking peoples of New Guinea get a stone from the black snake which possesses such power that they can kill a man by touching him with it.¹ The Cherokee of North America believe in a great snake of fabulous size, with a blazing crest like a diamond upon its forehead with which it dazzles its victims. This diamond has only once been obtained, but it confers upon the possessor enormous power. It is described as like a large transparent crystal, shaped like a cartridge bullet, with a blood-red streak running through the centre from top to bottom. The owner keeps it hidden in a secret cave, and feeds it every seven days upon the blood of game to prevent its flying out at night and taking the blood of the conjuror or some of his people.² In Wales, whenever a snake is found under or near a hazel tree on which the mistletoe grows, the creature has a precious stone in its head.³ According to the Malays the cobra has a bright jewel on its head which shines at night, and snakes carry a jewel in their mouths for the possession of which they fight.⁴ Chinese dragons are said similarly to fight for a pearl.⁵ The Sinhalese believe that certain serpents possess a jewel which is sovereign against snake-bite, and that snakes at night vomit up luminous stones

¹ Seligmann, *The Melanesians of British New Guinea*, pp. 282-283. These snake-stones can be rendered innocuous by immersion in a bowl of salt water, which will then hiss and bubble as though boiling. When no more bubbles are to be seen, the stone is "dead."

² Mooney, "Myths of the Cherokee," *Nineteenth Annual Report of the American Bureau of Ethnology*, pp. 297-298. There is record of the existence of this stone in the eighteenth century (*Timberlake's Memoirs* (1765), quoted in *Folk-Lore*, i. p. 278).

³ Trevelyan, *Folklore and Folkstories of Wales*, p. 171. For the connection of the snake with the hazel cf. below, p. 268, note 5.

⁴ Skeat, *Malay Magic*, pp. 303-304.

⁵ Skeat, *loc. cit.*

which give them light.¹ Certain varieties of snake on the Lower Niger possess similar stones which they vomit up. They are supposed to give a brilliant light, which attracts the snake's prey. Though specific against other poisons, these stones are of no use against snake-bite; they are mainly employed as a charm to attract game by those hunters, who are sufficiently adroit to kill a snake before it has had time to re-swallow the stone.²

Major Leonard reports that "the stone is so small or illusory that it has never been found in any of the specimens which have been killed," but although no doubt many of the stones in use are of questionable origin, the phenomenon of "hard and lapideous concretions" actually to be found in the bodies of some snakes may well have contributed to the belief.³ The Malays obtain calculi of this nature sometimes from snakes, but principally from the red monkey or porcupine, and use them as antidotes to poison or as remedies for various diseases.⁴ The stony secretions of the lynx were used in antiquity to cure falling sickness and to alleviate pains in the kidney,⁵ and the Byzantine Philes asserts that calculi from the ostrich are an excellent remedy for ophthalmia.⁶ To such calculi, which are not in fact of resplendent appearance nor in the least like diamonds, appears to belong the *dracontia lapis* of Solinus, an authority upon whom the medieval lapidaries drew. It must be cut out of the head of a living snake, for, if the snake dies before it is procured, the stone dissolves. Though much prized by kings of the East, it is of ignoble appearance, does not

¹ Hildburgh, *Journal of R. Anth. Inst.* xxxviii. pp. 188-200. These luminous snake-stones, the method of acquiring which is described, have general magical properties and are also specific against snake-bite.

² Leonard, *The Lower Niger and its Tributaries*, p. 192. The stone is described as round and smooth, blue by day and like fire by night.

³ Cf. Sir Thomas Browne on the Toad Stone, *Pseudodoxia*, iii. cap. xiii.

⁴ Skeat, *Malay Magic*, pp. 275, 303-304.

⁵ Solinus, *Collectanea Rerum Mirabilium*, ii. 38-39, on the authority of Theophrastus.

⁶ Philes (ed. Dübner), 150. I have not traced this in Aelian from whom Philes is mainly derived.

reflect artificial light, and is too soft to allow of carving or ornament. The perilous task of procuring it is carried out by performing the operation after the serpents have been drugged with medicated herbs.¹ The dragon stone acquired by Dieudonné de Gozon—as the result of his combat with the Rhodian dragon—and still preserved by his descendants as a family heirloom at the end of the sixteenth century, was alleged to have been cut from the forehead of the monster.² The doctrine that the stone must be taken from the brain of the dragon while it still lived also persisted through the Middle Ages.³ The *dracontia lapis* appears to have reached Rome from the East; the West had also its snake stone, the vogue of which has been perpetuated by the authority of the written text of Pliny, in spite of that author's scornful scepticism as to its virtues. His account of the *ovum anguinum* Pliny had from the Druids of Gaul,⁴ through the *Natural History* it passed to the medieval lapidaries⁵ and thence back, perhaps to reinforce a continuous local tradition, to the popular superstition of France and the British Isles.⁶ This adder stone, named a *milpreve* in Cornwall and *Maen Magi* or *Glain Neidr* in Wales, was formed by in-

¹ Solinus, xxx. 16-18.

² Hasluck, "Dieudonné de Gozon and the Dragon of Rhodes," *B.S.A.*, xx. pp. 75, 79. It was described as a crystal of the size and shape of an olive and of varied colour. Water in which it was placed bubbled violently while absorbing the virtue of the stone (cf. the Melanesian stone above), and was afterwards given to the patient to drink. A sixteenth century witness describes how a patient after this treatment vomited up a serpent 1½ palms long.

³ Conrad von Megenburg, *Buch der Natur* (ed. Pfeiffer), 444, § 29, cited by Hasluck, *op. cit.* p. 75, note 4.

⁴ Pliny, *Nat. Hist.* xxix. (12), 52-54.

⁵ Cf. the account of the stone *Dreconides* given by the fourteenth century *Lapidaire* of de Mandeville quoted by Hasluck, *B.S.A.* xx. p. 75.

⁶ Sebillot, *Traditions et Superstitions de la Haute-Bretagne*, ii. 217. Brand, *Popular Antiquities of Great Britain* (ed. Ellis, London, 1893), iii. pp. 286 and 369 foll.; Hunt, *op. cit.* pp. 220, 221, 222; Trevelyan, *op. cit.* pp. 170 foll.; Henderson, *Northern Counties of England and the Border*, p. 165; Johnson, *Folk Memory*, p. 148; Dalyell, *The Darker Superstitions of Scotland*, pp. 131 and 141 foll.; Campbell, *Popular Tales of the West Highlands*, ii. p. 385.

numerable snakes meeting together in a kind of congress which was supposed to take place on Midsummer Eve or May Eve.¹ From the general hissing at this meeting of snakes, amicably interlocked, or, in a Welsh version, engaged in a desperate struggle,² a kind of bubble of frothy slime was formed which hardened into stone.³

The objects which passed for snake stones of this kind seem for the most part to have been fossil sea-urchins, pieces of coral or most frequently of all the glass beads found in barrows of an earlier age.⁴ These latter, it may be noticed, were often doubly snake stones, for the lines with which they are sometimes marked suggested a snake imprisoned in the stone.⁵ Similarly, in

¹ Some authorities less definitely say spring or summer. Pliny's Druids put the congress of snakes in summer and at a particular phase of the moon.

² Trevelyan, *loc. cit.*

³ Pliny reports that the stone was projected into the air by the hissing. It had to be caught in a cloak before touching the ground, and the fortunate captor fled on horseback pursued by the snakes until he crossed running water.

⁴ Pliny's example seems to be an echinus. Fossil sea urchins are sometimes called "cock knee stones" and used for magical purposes in Scotland (Dalyell, *op. cit.* p. 141). For echinites as "thunderstones" see Blinkenberg, *The Thunder Weapon in Religion and Folklore*, pp. 74, 77-83, 95. Pliny's adder-egg may have resembled the early Danish amulet figured by Blinkenberg, *op. cit.* p. 85. An eye-witness described a *milpreve* as a piece of coral the size of a pigeon's egg (Hunt, *op. cit.* p. 220). A Welsh specimen is described as "a perfectly round and highly polished pebble, a soft pink shade blended with lilac. The tints resemble those of an opal; it is very cold to the touch, especially if placed against the eyes, lips or temples." Sometimes these stones are of a pale terra-cotta, sometimes light green and often of a soft azure blue (Trevelyan, *op. cit.* p. 171).

⁵ "They are small glass amulets, commonly about half as wide as our finger rings but much thicker, usually of a green colour, though some are blue and others curiously waved with blue, red and white" (Brand, *op. cit.* iii. p. 370, quoting Gough's *Camden* (1789), ii. p. 571). Carew in the seventeenth century says that "snakes by breathing upon a hazel wand doe make a stone ring of blue colour in which there appeareth the yellow figure of a snake" (*Survey of Cornwall*, quoted Hunt, *op. cit.* p. 221). Cf. the blood red streak in the Cherokee snake-stone mentioned above.

Caithness and the Hebrides ancient spindle whorls are thought to have been made by seven vipers who worked them into shape with their teeth, and as they were finished the king of the vipers carried them off upon his tail.¹ In the north of England almost any kind of perforated stone, such as is suspended as a charm against nightmare or to prevent night-sweating in the stable, is called an adder stone.²

The fortunate possessor of a genuine adder stone³ was assured of success in all his undertakings, particularly, according to Pliny's informants, in law-suits and royal audiences.⁴ According to more modern authorities, in addition to the general good fortune which it guarantees to the possessor, the adder stone has specific qualities, among which its use as prophylactic against the attack of snakes or as an antidote against their poison is almost universal. The method of cure is usually to dip the stone in water, which is then given to the patient to drink.

In Wales the curative properties of the adder stone are specially efficacious in diseases of the eye,⁵ and Aelian recommends the application of the slough of an adder for such ailments.⁶ The origin of this superstition can be explained. Aristotle gave authority for the belief that if the eyes of young swallows or serpents were put out they grew again.⁷ In one

¹ *Folk-Lore*, xvi. p. 336. Cf. Sir John Evans, *Stone Implements of Great Britain*, 2nd ed., p. 437; Johnson, *Folk Memory*, pp. 1, 7, 158. Such whorls are also called "Pixy grindstones," "Pixy wheels" or "Fairy mill-stones" in various parts of England and Ireland.

² *Denham Tracts* (Folk-Lore Society), ii. p. 43; Balfour and Thomas, *County Folk-Lore, IV., Northumberland*, pp. 51-52. For Perforated Stone Amulets see Elworthy in *Man*, 1903, No. 8, pp. 17-20.

³ A genuine adder-stone will float upstream even if set with gold (Pliny, *loc. cit.*).

⁴ Though Pliny tells us that it did not help a Roman equestrian who was put to death by Claudius.

⁵ Trevelyan, *op. cit.* p. 171.

⁶ Aelian, *Nat. An.* ix. 16.

⁷ Aristotle, *Hist. Nat.* ii. 17, vi. 5; *De Gen. An.* iv. 6. Cf. Antigonus Carystius, *Historiarum Mirabilium Collectanea*, lxxviii.; Aelian, *Nat. An.* ii. 3, xvii. 20; Pliny, *Nat. Hist.* xi. (55), 153.

version the parent swallows effected the cure by the application of celandine (*chelidonia*), which in consequence was a specific for sore eyes.¹ It is interesting to notice that by an intelligible transference the flesh of swallows² and the swallow plant³ come to be recommended not only for ophthalmia, but also for snake-bite.

Among the magical stones which were catalogued in later classical times there are some which enjoy the reputation of putting serpents to flight or curing the victims of snake-bite, which cannot with certainty be brought under any of the above categories of so-called snake stones.⁴ And mention should be made of a class of snake stone which appears to derive its name not from its serpentine shape, markings or origin, but from its function of extracting poison, for which it is qualified by its adhesive properties.⁵ Thus among the Malays snake stones are manufactured by magicians out of a mixture of metals. They are described as about an inch long, oval in shape and perforated. They are placed upon the wound, to which they adhere and will not fall off until they have sucked out the poison.⁶ In the Eastern Levant a rare kind of yellow porous stone was similarly used to absorb "every particle of venom from the wound."⁷

¹ Pliny, *Nat. Hist.* viii. (41), 98, xxv. 89 (50), 89. Lizards similarly cured their blinded young with an unknown herb and hence an agate stone with a lizard carved on it cured ophthalmia (Aelian, *Nat. An.* v. 47). In modern folk-lore the swallow uses a magic stone which in consequence provides an infallible remedy for ophthalmia. (In Pliny the swallow-stone is used for epilepsy. Cf. "Seventeenth Century Charm," Wright, *Folk-Lore*, xxiii. p. 235.) Swainson quotes a reference to the use of celandine from Chester's *Love's Martyr*, but it is possible that this may be derived directly from Pliny rather than from popular belief.

² Pliny, *Nat. Hist.* xxix. (26), 81.

³ Pliny, *Nat. Hist.* xxv. (55), 101. It is administered in wine.

⁴ E.g. the stone from the river Pontius (Aelian, *Nat. An.* ix. 20) or the purple stone of Indian origin mentioned by Philes (No. 77, I. 1424), which like the Scotch adder-stone was remedial in child-birth and also curative of snake-bite.

⁵ Cf. Lemnian Earth, above, p. 264.

⁶ Skeat, *Malay Magic*, p. 303.

⁷ Kelly, *Syria and the Holy Land*, p. 127, quoted Henderson, *op. cit.* p. 165.

No doubt it was snake-stones of this kind which Paul Lucas brought home, for among the rarities secured by him are catalogued "Plusieurs de ces Pierres, qu'on nomme Pierres de Serpent, parce qu'elles ont la vertu, étant mises sur la morsure des bêtes vermineuses, d'attirer tout le venin. Elles s'attachent sur la plaie et ne tombent que quand le venin est évaporé. On les fait ensuite tremper dans du lait, où elles laissent le poison dont elles s'étoient chargées."¹

W. R. HALLIDAY.

FOLK-TALES FROM THE PANJAB.

(*Folk-Lore*, vol. xxxii. p. 211 *et seqq.*)

II.

The Prince and his Clever Wife.

It is said that a certain Prince had six wives, whom he used to beat twelve times with his slippers every morning. One day a Mālin (female gardener) who brought flowers to the royal palace every morning heard of this habit of the Prince from a maid servant employed in the palace, and she said, "If I were married to the Prince he should prepare my *hukka* (tobacco-pipe) for me every day instead of beating me."

The Prince overheard this conversation, and immediately sent word to the gardener that he wished to marry his daughter. The gardener readily gave his consent, and after a few days the marriage was celebrated. In the morning the Prince wanted to beat his newly made wife—but she said that as it was the first day after their wedding all the royal ladies would come to see her, and if they saw she had been beaten they would come to the conclusion that the husband and wife were on bad terms with each other already, and this would be a disgrace to him. "Wait a few days," she added, "and then you may inflict punishment on me."

The Prince waited for a week or so, and then suggested beating her; but she excused herself by saying that up to the present time they had been living on an allowance made to him

¹ Lucas, *Voyage en 1714* (edition published at Rouen, 1719), iii. p. 342.